

## **SYSTEM FOR CONTROLLING A POSITION OF A MASS**

### **ABSTRACT**

A control system for controlling a position of a mass, such as, for example, a substrate holder in a lithographic apparatus, is presented herein. The control system comprises a first input to receive a desired position of the mass, a second input signal to receive a feedback signal indicative of the actual position of the mass, a control unit that produces a signal indicative of the required control force based on the difference between the desired mass position and the actual mass position, and an estimator unit that calculates an estimated relation between the control force and mass status information indicative of at least one of a position of said mass, a velocity of said mass, and an acceleration of said mass, and a third input to receive a feed-forward signal indicative of the desired mass acceleration. The control system then determines the control force needed to accelerate the mass and move it to a desired position based on the estimated relation and the desired mass acceleration.